

Fear as Related to Courage: An Aristotelian-Thomistic Redefinition of Cognitive Emotions

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ABSTRACT

The relationship between fear and courage has been discussed in terms of opposite but mutually involving notions. However, their link has not been inquired extensively. Recently, new light has been shed on the topic thanks to recent empirical evidence within emotion theories stressing the role played by perception and/or cognition in the experience of fear as well as the role played by the “emotional virtue” of courage in fear regulation. Questions arise whether fear has a fundamentally perceptual structure or is a biologically-grounded natural kind and whether such an emotion-related virtue as courage is intrinsically or extrinsically related to fear. This paper considers the latter problem first, broadens the view to fear modelling, and drives some conclusions aimed at deepening the relationship between fear and courage. As a result, it emerges that the emotion of fear has conceptual, emotional, situational, and subjective dimensions. Assuming fear as a possible emotional centre within the subject’s cognitive experience, the virtue of courage appears to balance the excess and lack of fear and is consequently related to rational thought and consistent behaviour, laying the foundations for a new Aristotelian-Thomistic (A-T) account for it.

Introduction

The relationship between fear and courage has been discussed at length, as they have been frequently described in terms of opposite but mutually involving

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notions (Baum, 2007; Vigani, 2017). However, several aspects of their link have not been inquired extensively. Recently, new light has been shed on the topic thanks to recent empirical evidence within emotion theories that stresses the role played by perception and/or cognition in the experience of fear (Tappolet, 2010; Olatunji, 2017) as well as the role played by the “emotional virtue” of courage in fear regulation (Carron, 2014; Algoe & Haidt, 2009; Stark, 2001).¹

Thus, this traditional relationship has been receiving new interest and relevance for emotion studies. In particular, questions arise whether fear has a fundamentally perceptual structure (LeDoux, 2013) or is a biologically-grounded natural kind (Kurst, 2018) and whether such an emotion-related virtue as courage is intrinsically or extrinsically related to fear (Figdor, 2008), namely if courage necessarily appeals to fear experience and interpretation, as Aristotle and many others in his line state, or if it just comes to interact with fear at a more contingent and situational level.²

This paper will consider the latter problem first. Then it will broaden the picture to fear modelling. Finally, it will drive some conclusions aimed at redefining the relationship between fear and courage, laying the foundations for a new Aristotelian-Thomistic (A-T) account for it.

2. Primary Question

We can therefore start by asking ourselves the following traditional question: “How is fear related to courage?”

Before answering this question, some A-T premises should be considered, as they constitute the historical and conceptual background of the question itself. Aristotle, and Aquinas along with him, argues that:

- Fear is the expectation of evil in a certain situation and with subjective implications;

¹ Kristján Kristjánsson (2017) focuses instead on the notion of “virtuous emotion” as we will see further in this paper.

² It must be noted that the Platonic view about courage and its relation to fear has also been fruitfully studied. Nicholas Baima, for example, develops an expanded view of courage, maintaining that “Plato broadens the set of actions and emotions that relate to courage. Instead of narrowly focusing on the actions that relate to war and the emotions of fear and pain, Plato wants us to see that courage relates to poverty and illness and the emotions of pleasure and desire” (Baima, 2018).

- Courage is, instead, a virtue.

According to this view, fear can be conceived simultaneously as conceptual (the predictive part of expectation), emotional (the waiting part of expectation), situational (the real conditions of expectation), and subjective (for expectation is always subjective).

Courage is, instead, essentially based on reason in that it rationally faces those dangers and threats that can induce fear, although it undoubtedly has an impact on the emotion of fear. Aquinas (*ST*, II-II, q. 1) considers virtues a way of conforming human acts to reason in three different ways: a) by rectifying the reason (through the intellectual virtue of wisdom or *phronesis*), b) by applying the “right reason” to human relationships (through the virtue of justice), and c) by removing the obstacles to the exercise of right reason. These obstacles might consist of 1) attraction for worthy and enjoyable things, which can weaken reason, and 2) urgency of facing dangers and threats that distract reason. While obstacles of the first type can be removed by the virtue of temperance, the obstacles of the second type can be removed by courage, which is therefore a virtue.

Courage, precisely for being a virtue in this regard, must be able to conform human acts to human reason. This virtue, however, is neither entirely mental nor spiritual, but it seems to be primarily corporeal. In the A-T perspective, courage is often assimilated to a physical force, which allows the owner to “stand immovable in the midst of dangers” (*ST*, II-II, q. 123 a. 6). Moreover, it is always strongly connected to emotional processes and states, for it constantly faces dangers, threats, and physical suffering.

3. Possible Answers

We can trace three main answers to our primary question:

A1) The courageous person “has no fears”;

A2) The courageous person has fears, and she confronts them from outside, as in a battle;

A3) The courageous person *lives* fear, and she regulates and shapes it from inside as a process of harmonisation.

3.1) The answer (and proposition) A1 is questionable. According to Aristotle (*NE*, II), a person who is never afraid is just insensitive, not virtuous. The insensitive person might not feel fear for different reasons: an arrogant sense of self-confidence based on some overestimated experiences (for example, the security of soldiers in the battle), an irrational impulse based on the impetuosity of passions (for example, the aggressive impulse of a vindictive act), an excess of trust and confidence in her own abilities based on the omnipotent idea that she cannot lose or succumb (for example, the fireman's confidence in dealing with fire), or a general inability to recognise fear based on the ignorance of dangers and threats (for example, the thoughtless actions of some young people driving the car). Aquinas (*ST*, II-II, q. 1), pushing Aristotle's view, specifies that the word *courage* can refer to situations that do not involve virtue performance.

- A person might face dangers and threats with the idea that they are innocuous; she might disregard dangers out of ignorance (absence of perception), excessive self-confidence (underestimation), or mechanical habits (habit of dangers and threats).
- A person might face dangers and threats following non-rational impulses, for instance an uncontrollable passion, a pain that she absolutely wants to avoid or escape from, or a furious and explosive anger.
- A person might search for dangers and threats with the idea of getting sudden temporary advantages such as an immediate personal benefit (glory, pleasure, material gains, etc.) or the avoidance of damage (dishonor, suffering, misfortune). This seems to imply a general moral strategy, but looking at it in depth, it is intended more as an instinctive emotional reaction than a utilitarian ethical option.

All these examples show that the insensitive person is not virtuous because she is not involved with a rational choice. Acts based on ignorance, irrational impulse, excessive self-confidence, or the inability to recognise fear are not real acts of choice; they are rather non-rational forms of automatism, and therefore they cannot be labelled under the acts of courage. From an A-T perspective, it can be concluded that A1 (the idea that “the courageous person has no fears”) is false because it refers to unrealistic situations and gives no reasons for the virtuous action.

So part of what defines courage are the kinds of things that someone

doesn't fear. A courageous person doesn't fear the most fearful, harmful things, of which death is the greatest (*NE*, III, 6).³

3.2) The answer (and proposition) A2 is not appropriate. Sure enough, a person who faces fear is inevitably facing a part of herself, as fear is part of one's inner world. However, virtue, being a stable, unifying, and coordinating character trait,⁴ cannot be characterised by inner struggle. It might imply inner struggle until it is acquired, but once it has developed fully – or perhaps just enough (Navarini, 2019) – it must be effortless and spontaneous by definition. In this regard, Aristotle's attribution of courage especially to the battlefield might sound awkward unless it is taken rather metaphorically. To be sure, Aristotle explains that the battlefield provides a favourable opportunity to perform courage, but the courageous man does not look for struggles and war. On the contrary, in Aristotle's view, war is typically desired by the insensitive man who faces it without real awareness, or by the reckless man who incites war at first but then flees it. Indeed, he exceeds in audacity with the purpose of exerting control over dangers and threats, but instead he emulates courageous men only in non-dangerous (or not yet dangerous) situations: "The reckless man is hasty before danger, but he is a coward when danger is real" (*NE*, III, 8).

Quite similarly, Aquinas (*ST*, II-II, q. 3) holds that courage has two components, namely fear and self-confidence or recklessness. The will of the courageous person might be distracted from the use of reason by the fear of dangers and threats, but he nevertheless succeeds in acting with moderation and caution, aiming at a future good. Hence, courage can regulate fear and recklessness. In summary, we can conclude that courageous people never "seek war," although they are prepared to fight firmly when necessary, as war is not a property of courage. For this reason, A2 (the idea that "the courageous man has fear, and he confronts it from outside, as in a battle") is false because it is not appropriate to the real functioning of virtue. Consequently, the externalist view of the relationship between fear and courage does not hold.

³ According to Baima, "the expansive view of courage is an outgrowth of Plato's commitment to (1) boldness and fear being on the same continuum, and (2) the greatest object of fear being having a vicious soul, and not death" (Baima, 2018). Quite interestingly, Kathy Behrendt addresses a particular kind of fear, the *fear of non-existence* (Behrendt, 2010).

⁴ Within virtue ethics the question whether virtues are skills or traits is still under discussion. For an overview about this issue, see Jacobson (2005).

To be sure, some authors consider A2 an authentically Aristotelian interpretation (see Amélie Rorty, 1986), and they consistently argue that “if it is defined in traditional ways, as a set of dispositions to overcome fear, to oppose obstacles, to perform difficult or dangerous actions, its claim to be a virtue is questionable” (Rorty 1986). According to Rorty, courage should not be understood as a single virtue, but – precisely because of its fundamental feature of “fighting fear” – as a sort of virtue enabling sub-virtues, or simply a set of traits that are useful in stressful situations like those regarding the military life.

There is an aspect of traditional courage that serves us: we require the capacities and traits that enable us to persist in acting well under stress, to endure hardships when following our judgments about what is best is difficult or dangerous (Rorty, 1986).

Therefore, “we need rather to reform it by diversifying it, as a heterogeneous variety of traits that enable us to act well under stress, against the natural movements of self-protection” (*ibid*). This Aristotelian interpretation deserves some credit, especially when referring to Aristotle’s *De Anima*, which seems to embrace the extrinsic view of emotions as *pathe*. In that regard, one might detect an ambiguity in *De Anima* with respect to *Nichomachean Ethics* and prefer to follow the plainly intrinsic Aquinas account, which is probably more effective for this specific problem.

3.3)A1 and A2 imply some false premises: a) virtues and emotions (in this case, courage and fear) are incompatible because virtues are rational and cognitive while emotions are irrational and non-cognitive; b) emotions (like fear) are totally external to reason and to its virtuous manifestations (like courage), and therefore they can also be conflicting because they are subjective; c) the virtuous person (like the courageous) is such that she does not feel emotions (like fear), or she fights them when they arise. In sum, the two wrong answers to the question “How is fear related to courage?” entail the problematic premises that the virtuous person does not feel fear or fights against it when it arises.

It must be noted that declaring the weakness of A2 does not contradict what Aristotle says about courage, namely that its core components are “attacking fear” and “resisting it.” The attack-or-resist polarity of courage, which is characterised more by resisting than by attacking fear, is indeed not immediately equivalent to virtuous behaviour. Only when this polarity in fear management is effortless, almost natural, and in accordance to reason, then the full-blown virtue of courage is displayed. The very idea that the virtue of courage

is extrinsically defined as a permanent struggle against fear appears to invalidate its very existence.

In what follows, we will consider the third answer and try to demonstrate that it is correct, also in the light of cognitive theories of emotions, which in this respect support the A-T account of at least some emotions and their related virtues. As we will argue, the answer (or proposition) A3 (the idea that “the courageous person experiences fear, regulating and moderating it from inside”) is realistic and appropriate. A3 is consistent with the given premises while contrasting the unacceptable premises underlying A1 and A2.

4. Derived Argumentations

According to the A-T perspective on virtues and emotions, and considering the A3, we can derive the following:

- 4.1) The courageous person *lives* fear and remains virtuous;
- 4.2) The virtue of courage includes the emotion of fear;
- 4.3) The courageous person regulates (or self-regulates) emotions deliberately;
- 4.4) Fear (and self-confidence or recklessness), together with our personal points of view and our situational conditions, constitute both pre-conditions and components of a courageous choice. We can easily admit that: a) courage is among the most emotional virtues because of its attitude of facing dangers, threats, and even death; b) virtues are cognitive and rational; c) if we establish the non-cognitive nature of emotions, then emotions depend basically on irrational processes and states, and therefore reason cannot regulate them; but in this case, we could not define courage as a virtue. Let us now consider these four points analytically.

4.1) The courageous person *lives* fear and remains virtuous. Susan Stark (2001, 2004a, 2004b) believes that the virtuous person does not feel a single emotion but many of them together, and she adds that the other way around would be problematic. The question of whether the virtuous person feels only one virtuous emotion or different and even conflicting emotions generates from a misleading idea of negative emotions. Stark, according to Aristotle, defines emotion as a neutral and typically human phenomenon (Krjstiánsson, 2017), which is not *per se* virtuous or vicious. While virtues and vices are (or imply) choices, emotions are not choices, as reported by Stark:

Everyone gets angry; some situations just are such that they cause anger to arise in us. But this, Aristotle says, is neither virtuous nor vicious because virtue involves choice, and the fact that a situation is anger inducing is not of our choosing (Stark, 2001: 440).

Emotions seem to be, instead, spontaneous and independent from rational and moral choices, although they can be rationally processed and indirectly modified, precisely by virtues.⁵ The virtuous person is not someone who doesn't feel emotions but who experiences emotions internally in the best way. She creates the best conditions on the basis of contingent situations and needs to shape emotions, and she is able to balance actions and passions.

As Aristotle puts it, the courageous man feels fear “at the right times, with reference to the right objects, towards the right people, with the right motive, and in the right way, is what is both intermediate and best” (*NE*, III, 6). Therefore, if virtue is not the absence of emotions, then courage is not the absence of fear, nor is it a struggle against fear, but a stable acquired disposition to feel fear (and boldness) appropriately. Hence, fear – like any emotion – must not be evaluated as positive or negative *per se* but simply experienced in an appropriate or inappropriate way. As we have already noted, according to Aristotle, the courageous man experiences both the emotions of fear and self-confidence or recklessness. Through these emotions, he becomes more and more able to discriminate among situations and conditions optimally so as to understand whether to act or to wait. Stark (2001) recalls this point by saying that the courageous person lives different emotions but in a unified and unique way; she firmly holds virtuous motivations toward good ends and forms realistic mental representations because her perception is truthful, and her mental processing is rational. Therefore, the courageous person always acts with strength and rectitude. In a word, she feels and thinks holistically. On this matter, Stark refers to Jonathan Dancy (1993), who introduces the mental concept of holistic narrative, which determines personal actions with a detailed understanding of the environmental situation. Similarly, Stark maintains that the virtuous person synthesises her perceptive representations in a holistic

⁵ It would be more precise to say that emotions might *arise* independently or also in contrast to reason, but they have nonetheless a robust cognitive valence (...) and complex neural correlates (...). Also, they can be submitted to reason by means of virtues. This is the thesis we intend to reinforce (Stark, 2001).

narrative and is responsible for establishing the normative and motivational reasons of her virtuous acts. Michael Smith (1995) also distinguishes between normative and motivational reasons for an act. He maintains that:

- The normative reasons are logical because they determine mental and moral propositions;
- The motivational reasons are psychological because they are predominant and exclusively internal dispositions.

According to Stark, virtue is not the absence of emotions at all, nor it is the presence of monolithic positive emotions. Instead, it is a fundamentally existential framework structured as a right mental habit.⁶ Stark's thesis thus confirms our A-T perspective, as is apparent when she claims that the virtuous person must conduct a life of suffering for continuously facing dangers and threats. Virtue has indeed a joyful price, but this requires a long and difficult path. In the end, however, virtue leads to the final good purpose, which provides flourishing. In this sense, the courageous person is responsible for her actions and knows their possible consequences. She also thinks she could lose the battle for happiness because courage does not guarantee victory. In the A-T perspective, courage is that perfect mix of fear and confidence so that the courageous person always experiences emotions, although emotions necessarily are sufficient motivation for action. As Stark claims:

True virtue requires the full realization that the virtuous path may involve pain and hardship, loss and difficulty. Yet virtue can involve pain and loss without thereby losing the very important motivational unity in virtue and the crucial distinction between virtue and continence [...] But the virtuous person, by my account, is unified motivationally: by reasons holism, she has one and only one reason for action. And regarding her emotions, she needn't be univocal: the courageous person can feel confidence and fear. Thus her emotions can reflect the many and varied values ~ both the goodness and the potential harm! contained within the virtuous path. So we can preserve the motivational unity of virtue without the expense of Stoic emotion. We can admit conflicting values into virtue without worry of indecision in action. And if we doubt that this is true, it is only because our notion of virtue is, at the end of the day,

⁶ A virtuous man is so almost identified with his virtue.

fundamentally and inappropriately beholden to action (Stark, 2001:453).

4.2) The virtue of courage includes the emotion of fear. Paul Corcoran (2004) recognises that emotions are problematic for virtue ethics because virtues are deliberative and rational while emotions are often considered non-rational. Krstjansson (2017) argues, in contrast, that a true Aristotelian reading of emotions would bring one to admit their fundamental “rationality,” and for this reason, Aristotle attributes them only to humans.

Emotions might also be viewed as psychological dynamics that constitute important signals, or information, of the relationship between subject and environment. Hence, emotions can structure the internal state of the person. However, they are difficult to classify and have been often understood in a negative sense. Martha Nussbaum (2004), for example, tends to define so-called negative emotions (anger, sadness, fear, envy, etc.) as limitations to a virtuous and beautiful life, linking these emotions to vices – anger with cruelty, envy with greed, fear with cowardice, and sadness with indolence. To be sure, these emotions become *vicious* only if reason does not virtuously regulate them, as we tried to demonstrate in the previous paragraph.

Courage is one of the best examples of such an integration of virtue and emotion. As we noted above, it is among the most emotional virtues because fear and recklessness are necessary components of it. Like Aristotle, Corcoran believes that virtues can be learned through prolonged exercise, personal knowledge, and gradual habituation. In this effort, emotions are very important because they inform and accompany the whole process. We can say that, in a sense, the virtuous is in love with her virtue, and the courageous person is in love with courage, although in a passionate and emotional (rather than rational) sense. Like Stark, Corcoran reaffirms an important statement: emotions are not virtuous or vicious, and they are neither morally nor psychologically positive or negative. They are, instead, *the information that reason processes*. Since they are morally neutral, they are not enemies or obstacles for reason. According to Corcoran, the idea of a monolithic emotion of virtue is based on the traditional mind-body dichotomy, pretending that reason is mental and emotion is corporeal, so that virtue is only rational and mental. In this sense, the concept of emotional virtue seems contradictory because virtue and emotion are posed as dichotomous. As Corcoran holds:

The argument I make here, then, suggests that the virtues are embodied actions. They are not (only, or always) actions informed by precepts of reason or motivated by logical inferences. Rather, I am suggesting that the emotional “content” of human action is not inchoate, destructive or inimical to the content of rational activity (Corcoran, 2004:8).

4.3) The courageous person regulates (or self-regulates) emotions deliberately. Paul Carron (2014) provides evidence for the Aristotelian theory on reason and emotions by referring to recent psychological and neurobiological studies on emotional self-regulation, self-control, and finalised behaviour. Aristotle distinguishes two parts of the soul: 1) the rational part, which is logical, deliberate, and productive, and 2) the non-rational part, which is passive, automatic, and free of rational implications. Virtue is a learned ability integrating these two parts; therefore, the virtuous person regulates emotions and actions. Thanks to her virtues, she can process emotions and use them on purpose.⁷ Hence, the courageous person can regulate fear and confidence.

From a biological point of view, fear can be simply detected as a warning against dangers and threats, and with respect to this, it is basically a piece of information. However, a piece of information always needs to be deciphered and interpreted based on a shared code and personal beliefs and viewpoints. Similarly, as already mentioned, Aristotle defines ignorance as the absence of the perception of danger and threat, which are cognitive pre-conditions. So, for the virtuous person, emotions are cognitive: 1) during the emotional process, because emotions derive from a mental recognition, which is sensorial, perceptive, mnemonic, and elaborative; 2) in the mental state, because emotions are always conscious and self-evident.

Carron clarifies the Aristotelian distinction between rational and non-rational parts of soul. Note that “non-rational” is not the same as “irrational.” While “irrational” means “anti-rational,” “non-rational” means, instead, only “without rational implications.” Moreover, what is anti-rational could not be cognitive because the cognitive is never anti-rational. Instead, the cognitive can be with or without rational implications. The attention is also cognitive but not rational, even if it can arouse and support reason.

⁷ Emotion regulation can be defined as “the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions” (Gross, 1998: 275).

Luc Faucher and Christine Tappolet (2002) elaborate Ronald de Sousa's thesis on the relation between emotions and attention (de Sousa, 1987). In their view, fear is the most attentional emotion because it increases the attention to the environment and its stimuli. Therefore, the Aristotelian distinction would not be between cognitive and non-cognitive processes but between rational and non-rational processes, which are both cognitive. However, if emotions can be regulated by reason, and if they are related to other cognitive functions (for example, attention and memory), then emotions are not irrational, but rather non-rational and cognitive.

Hence, a true A-T interpretation can lead to viewing emotions as expressions of the non-rational part of the soul, but nevertheless cognitive. Indeed, the virtuous person shapes and controls her emotions through reason so that her emotions are fully cognitive. Consequently, we can easily admit that any cognitive element and process can be integrated by reason although it is non-rational. On the contrary, any non-cognitive element or process cannot be integrated by reason. Hence, the courageous person regulates fear with her virtuous reasoning, cognitively. In this sense, Carron admits that contemporary research, both within psychology and neurobiology, distinguishes between two cognitive systems of information processing: 1) a rational system, which involves the cerebral cortex, and 2) an experiential-emotional system, which involves sub-cortical structures. However, in moral decisions, the two systems work together inseparably. This strict relation is especially evident in emotional self-regulation, which is due to virtue. The courageous person, therefore, self-regulates fear and self-confidence or recklessness so that her rational system controls her experiential-emotional system (Gross, 2002).

Finally, we can introduce the distinction between rational, non-rational, and irrational as follows: 1) what is *rational* is a cognitive and conscious phenomenon, which is a product of human reasoning; 2) even what is non-rational is a cognitive and conscious phenomenon, but without rational implications, although it can be integrated by reason; 3) what is irrational is a non-cognitive and non-conscious phenomenon, and it is a product of human unconsciousness, as in dreams, hallucinations, impulses, and undetectable instincts.

Virtue and emotional self-regulation are both deliberate processes, partly overlapping, as Kristjánsson seems to admit. He distinguishes five types of virtues and recognises that one among them, in the realm of moral virtues, is

specifically devoted to emotion-regulation: “other virtues, ‘virtues of will power,’ regulate emotions, like courage regulates fear” (Kristjánsson, 2017).

Concerning virtue, Aquinas describes courage as the virtue that faces dangers and threats in order to keep right reason. Courage requires firmness and determination, which are important elements of emotional self-regulation (*ST*, II-II, q. 2). Moreover, in the A-T perspective of courage, resistance is more important than struggle because courage is more focused on regulating fear than on moderating self-confidence or recklessness. Therefore, the courageous person lives fear and self-confidence with firmness and determination so as to self-regulate them (*ST*, II-II, q. 6); she endures pain and suffering aiming at a future good (*ST*, II-II, q. 8).

Regarding emotional self-regulation, it must be said that the A-T perspective entails a cognitive definition of emotions for the aforementioned reasons: 1) the non-rational part of the soul is also cognitive; 2) emotions are non-rational parts of the soul; and 3) emotions are cognitive.

At present, the different types of cognitive theories of emotions, arguing that emotions are cognitively characterised by a judgment, a belief, a representational core, a mental construct, an evaluative thought, or simply by a perception, have a considerable currency (Griffiths, 2002; Roberts, 2003, 2013; Kristjánsson, 2017). Among the authors who, instead, share a biological and evolutionary notion of emotion, it is worthwhile to consider briefly the model elaborated by Joseph LeDoux (1996). Originally, he posits the existence of two different neuronal circuits specifically concerned with the experience of fear: 1) a high road (from thalamus to cerebral cortex, and from cerebral cortex to amygdala) that would determine conscious fear; and 2) a low road (from thalamus directly to amygdala) where the cerebral cortex does not intervene, and this would determine fear reactions in the organism. According to LeDoux, the low road would demonstrate the non-cognitive nature of the emotional process because only the cerebral cortex would produce cognitive processes, and these processes would be subsequent to the low road ones. Some years later, LeDoux (2013) expands his model, distinguishing between fear and threat; while fear is considered a conscious emotion, threat is labelled as a behavioural and physiological reaction (the former *low road* organic dimension of fear). So fear is related to dangerous and conscious experience, but threats is instead related to the instinctive reactions of the body. Although fear and threat are often co-present, he claims they represent different processes because, while any biological organism reacts to a threat, only human beings can feel fear.

Therefore, while threat would be a simple biological reaction to dangerous stimuli, fear would be, in a sense, the conscious experience about the same threat. From an evolutionary point of view, LeDoux affirms that emotions are originally independent, biological, and reactive. Then, as consciousness emerges and the cerebral cortex develops in human beings, they become cognitive. By affirming that, LeDoux wants to take some distance from the idea of emotions as natural traits (among others, see Ekman, 1992), interpreting them as the immediate and subjective reaction to perceived states categorised by folk concepts. As Kurth (2018) reads him, “emotions result from projecting culturally-fashioned concepts onto felt affective episodes.” Thus, fear “just is a feeling of negative arousal as viewed through the lens of one’s folk concept *fear*” (Kurth, 2018). LeDoux’s account would be new, according to Kurth, in the sense that it explains emotions in terms of “felt experience and cognitive projection,” thus interpreting emotions as social-psychological constructions and not merely as natural kinds. However, he also recognises an important place for the biological mechanisms underlying emotions.

Gregory Johnson (2008), criticizing LeDoux’s account as a non-cognitive theory of emotions (LeDoux, 1996; see also Robinson, 2004, 2005; Prinz, 2004a, 2004b; DeLancey, 2002), argues that sub-cortical circuits cannot explain human emotions because they appear to him too simple and incapable of giving a full account of the processing centre of emotions. Such a process is instead complex, depending on multiple variables. Johnson highlights two important limits of the non-cognitive perspective of emotions:

- Any centre or structure of information processing is cognitive by definition;
- Sub-cortical rows, as in LeDoux’s low road, do not allow a complete representation of emotional stimuli, and their partial representations cannot determine an emotion like fear. According to Johnson, emotions are always processed by a cortical cognitive centre.

Johnson recalls the distinction between emotional states (conscious emotion) and emotional processes (generative mechanisms of emotions):

In a straightforward sense, processes occur or unfold over time and, neurobiologically, over a particular spatial scale. During the course of the process, information of one sort or another is manipulated such that the output that the process produces is different than the input it began

with. In contrast, a state is something that is simply present or not present. A mental state, for example, a belief, has content and perhaps a causal or a functional role in a process, but the state itself is just present or not present in an individual (Johnson, 2008:740).

In the non-cognitive perspective of emotions, the emotional processes are considered as natural reactions to environmental stimuli that do not require cognitive recognition, mental processing, or propositional representation. For this reason, human emotional reactions would be identical to animal ones, which the A-T account would reject firmly.

The cognitive perspective on emotions (Ellsworth & Scherer, 2003; Roseman & Smith, 2001; Scherer, 2001), instead, succeeds in addressing and solving some problems involved in the non-cognitive perspective, as Kurth (2018) points out:

- Different emotions can be caused by the same event (for example, a failure can lead to discouragement in some and the desire to move forward in others);
- Some emotions can be caused by different events (for example, failures, losses, boredom, and solitudes can be causes of sadness; or novelties, changes, differences, and death can be causes of fear).

According to Aristotle, what causes fear is different for each person. Dangers and threats can be real or not, and fear can be more or less intense. Also, some fears are justified because the absence of fear means imprudence and impudence. On the contrary, other fears are not justified because they are effects of mental confusion. In this situation, a person might believe that something is dangerous when it is not. Therefore, Johnson, in line with the A-T model, believes that some cognitive factors (such as points of view, interpretations, meaning attribution, etc.) activate emotions: “the information that the individual has prior to encountering the stimulus, plus relevant information about the stimulus, determine the type of emotion response that is generated” (Johnson, 2008:741).

Finally, we can compare the non-cognitive perspective of emotions with the traditional Stimulus-Response (SR) paradigm of American behaviourism (Watson, 1913; Guthrie, 1952). In this paradigm, complex human behaviour is explained as a set of simple reactions to environmental stimuli. Behaviourism establishes that behaviour is not cognitive. Similarly, in

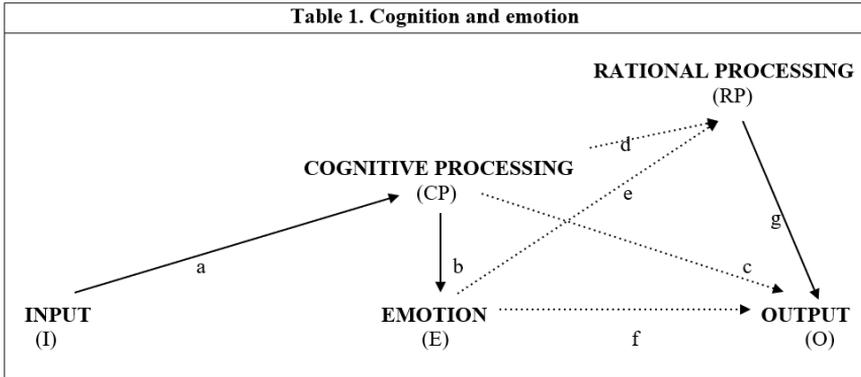
the non-cognitive perspective, emotions are simple reactions to environmental stimuli, and cognitive processes are irrelevant. However, the first SR paradigm has been mostly dismissed in the present day due to neo-behaviourism and cognitivism. Since the 1930s, neo-behaviourists introduced organismic variables into the study of behaviour such as cognitive maps (Edward Tolman), cognitive variables (Clark Hull), and reinforced behaviours (Skinner, 1969, 1974, 1995). Instead, since the 1950s, cognitivists have overturned American psychology because they focus on purely cognitive issues also in terms of behaviour and emotion. In the new Stimulus-Organism Response (SOR) paradigm, organismic and cognitive variables (O) become central in processing information and determining reactions. Similarly, within the cognitive perspective, emotions can be understood in two different ways: 1) they might be effects of environmental stimuli, which are cognitively processed; or 2) they might be organismic variables, which are merged into cognitive variables. Either way, emotions remain cognitive, and reason can regulate them through virtues.

4.4) Fear and confidence, personal points of view, and situations are pre-conditions and components of a courageous choice. We can now describe the relationships between cognition and emotion and between fear and courage. First, the external input (environmental stimulus) is cognitively processed (throughout attention, representation, and perception), and *then* it activates an emotion. So, the emotion is cognitive and is activated by recognizing the input. In other words, emotion is not determined by cognition, but it is activated by cognition. It is also true that the acquired habit of virtue not only enables the cognitive system to experience emotions according to reason, but it also induces their emergence.

Secondly, the same input can be subjected to further rational processing, which is always activated by a deliberate choice. Processed inputs and activated emotions can converge in this second rational processing, which is more complex and synthetic, eventually unifying the two of them. However, this unifying process might not occur; when they are not rationally processed, they might also diverge. Therefore, while rational processing determines a single output, its lack within input processing and emotion activation determines, instead, two different outputs.

Consequently, while the second rational processing integrates, unifies, and produces single actions, its absence causes the emotion to be activated by cognitive processing but then to work alone. Without this double rational

processing, in conclusion, cognition and emotions determine different reactions, which can be conflicting, independent of each other, and only contingently related. This explanation can be represented as follows:



Keys of the picture:

Continuous lines = necessary relations.

Discontinuous lines = possible relations.

a = initial cognitive processing of external input.

b = arise of emotion from first cognitive processing.

c = conclusive response of cognitive processing.

d = subsequent rational processing of external input, which has already been cognitively processed.

e = subsequent rational processing of emotion, which has already been cognitively processed.

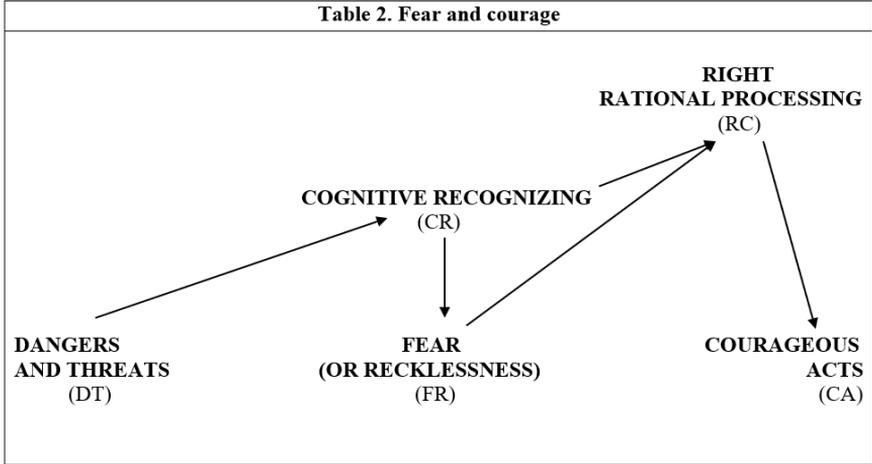
f = conclusive emotional response.

g = conclusive response of rational processing.

We can also formalise it:

- 1) $(I \rightarrow CP) \bullet (CP \rightarrow E)$
- 2) $\perp (I \rightarrow E)$
- 3) $CP \rightarrow (RP \vee O_1) \bullet (RP \rightarrow O_0)$
- 4) $E \rightarrow (RP \vee O_2) \bullet (RP \rightarrow O_0)$
- 5) $\perp I \rightarrow \{(CP \bullet E) \rightarrow [(O_1 \vee O_2) \vee (RP \rightarrow O_0)]\}$

The case for fear with respect to courage is consequently represented in Table 2:



At first, dangers and threats are cognitively processed by attention, representation, perception, etc. Then, they are recognised and activate the emotion of fear (or recklessness). Moreover, the inputs (dangers and threats) are deliberately subjected to further rational processing. Inputs of dangers and threats and related emotions of fear and recklessness converge in this second rational processing, which finalises good purposes and virtuous behaviour. Finally, this processing activity might determine courageous acts.⁸ In virtues like courage, rational processing is always active.

In formulas:

- 1) $(DT \rightarrow CR) \bullet (CR \rightarrow FR)$
- 2) $\perp (DT \rightarrow FR)$
- 3) $CR \rightarrow RP \rightarrow CA$
- 4) $FR \rightarrow RP \rightarrow CA$
- 5) $\perp DT \rightarrow RP \rightarrow CA$

⁸ We could argue that the process of performing a courageous act might always be interrupted by our Veto power, as opposed to our Consent power, which confirms instead the expected action, but this argument cannot be dealt with in this context (Navarini, 2019).

5. Conclusion

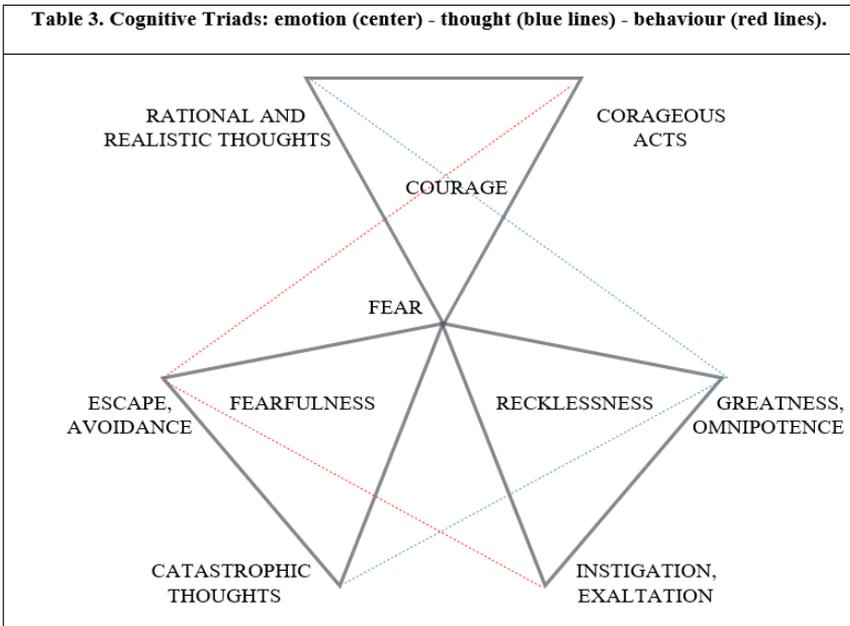
It is now time to unify the different suggestions coming from the A-T model and the cognitivist approach to emotions to depict a hopefully successful account of fear as related to the virtue of courage.

We can say the following:

- 1) The courageous person *lives* fear and remains virtuous. To elaborate: 1.1) each virtuous person does not feel single emotions but experiences different emotions in a unified and unique way; 1.2) emotions are neutral because they are not necessarily virtuous or vicious or morally positive or negative; 1.3) while virtues and vices are choices, emotions are not choices; 1.4) the courageous person feels fear at the right time and for the right reasons and conditions; 1.5) courage is not the absence of fear or a struggle against it but a disposition toward feeling fear appropriately; 1.6) courage is among the most emotional virtues; 1.7) the courageous person internally experiences both the emotions of fear and self-confidence (or recklessness), and she feels and thinks holistically; 1.8) the courageous person has to live suffering because she faces dangers and threats; and 1.9) the virtue of courage implies an existential point of view (narrative and cognitive), which is well-structured as a right mental habit.
- 2) Virtues like courage can and do include emotions like fear. To elaborate: 2.1) emotions bring information on the relationship between person and environment; 2.2) some emotions like fear become vicious only if they are not processed rationally; 2.3) virtues like courage can always be learned through a prolonged exercise; and 2.4) the courageous person regulates emotions and actions and uses them on purpose (for example, the courageous person regulates fear and recklessness).
- 3) “Non-rational” is not the same as “irrational.” To elaborate: 3.1) what is cognitive may or may not have rational implications; 3.2) if emotions can be regulated by reason, and if they are related with attention and memory, then emotions are not irrational, but they are non-rational though cognitive; and 3.3) the courageous person regulates fear through her virtuous reasoning, and therefore fear is cognitive.
- 4) Virtue is connected to a choice that implies emotional self-regulation. To elaborate: 4.1) virtue and self-regulation are both deliberate processes; 4.2) courage requires firmness and determination, which are important elements

of emotional self-regulation (for example, the courageous person self-regulates fear and recklessness); 4.3) we can distinguish emotional states (conscious emotions) and emotional processes (generative mechanisms of emotions); and 4.4) we can compare the non-cognitive perspective of emotions with the traditional SR paradigm and the cognitive perspective with new SOR paradigm.

We can finally try to give a comprehensive account of the emotion of fear, which highlights its relation to virtues and vices as well as to thoughts and actions. As we said in the beginning, the emotion of fear has conceptual, emotional, situational, and subjective dimensions. In Table 3, we have assumed fear as the emotional centre of the subject’s cognitive experience. The virtue of courage balances the possible excess and lack of fear, being consequently related to rational thoughts⁹ (adherent to reality) and to consistent behaviour.



⁹ This call for realism would introduce some observations about another fundamental virtue, namely humility, which transversally crosses any virtuous act; but for the purposes of the present work, this would broaden the picture too much.

This view would also allow the future development of a full morality of emotions. The morality of fear might derive precisely from its being shaped by the agent's courageous habits, which are nurtured by reason but are also enriched by the exposure to good behaviours and exemplars.

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